

CLAIMS

What is claimed is:

- 1 1. A method of interacting with a client process on a mobile device connected to a
2 network over a wireless link to navigate an application, the method comprising the steps of:
3 managing information at a mobile application server executing on a platform
4 connected to the network, the information including first data describing a
5 graphical element for display on the mobile device, the first data including a
6 first reference to the graphical element and a second reference to a page
7 associated with requesting a service from a first application;
8 sending to the client process for rendering the graphical element on the mobile device,
9 second data based on the first data, the second data including the first
10 reference;
11 receiving third data indicating the first reference in response to a user of the mobile
12 device selecting the graphical element; and
13 in response to receiving the third data, requesting the page from the first application
14 based on the second reference.
- 1 2. The method of Claim 1, wherein the second data does not include the second
2 reference to the page.
- 1 3. The method of Claim 1, wherein the step of managing further comprises storing the
2 first data in a data structure.
- 1 4. The method of Claim 3, wherein the second reference is a value of a next page
2 attribute of the data structure.
- 1 5. The method of Claim 3, wherein the data structure inherits methods and attributes
2 from a bean class for exhibiting persistence and serialization.

- 1 6. The method of Claim 5, wherein the bean class is a JavaBeans class.
- 1 7. The method of Claim 1, further comprising the step of receiving fourth data from a
2 second application, the fourth data describing the graphical element and including the second
3 reference to the page associated with requesting the service from the first application.
- 1 8. The method of Claim 7, wherein the second application is different than the first
2 application.
- 1 9. The method of Claim 7, wherein the second application is the same as the first
2 application.
- 1 10. The method of Claim 7, said step of managing the information further comprising
2 generating the first reference based on the fourth data.
- 1 11. The method of Claim 1, further comprising the step of receiving fourth data from the
2 first application in response to said step of requesting the page, the fourth data describing the
3 page and comprising fifth data describing a different graphical element for display on the
4 mobile device, the fifth data including a third reference to a different page associated with
5 requesting a service from a second application.
- 1 12. The method of Claim 11, wherein the information managed by the mobile
2 applications server includes the fifth data.
- 1 13. The method of Claim 1, wherein the information managed includes fourth data about
2 a plurality of pages associated with a plurality of applications and the step of managing the
3 information further comprises generating a unique name for the page among the plurality of
4 pages based on the second reference.

1 14. The method of Claim 1, said step of requesting the page further comprising providing
2 fourth data to the application based the information managed by the mobile applications
3 server.

1 15. The method of Claim 14, wherein the fourth data includes the second reference.

1 16. The method of Claim 14, wherein the third data does not include the fourth data.

1 17. The method of Claim 14, wherein the second data does not include the fourth data.

1 18. The method of Claim 14, wherein the fourth data comprises a universal resource
2 locator (URL) address for the page for use with an Internet protocol (IP) on the network.

1 19. The method of Claim 18, wherein the fourth data further comprises input parameters
2 and corresponding values for use by the application at the URL address in providing the
3 service associated with the page.

1 20. The method of Claim 1, wherein:
2 the graphical element is included on a different page associated with requesting a
3 different service from a second application;
4 the different page has a third reference; and
5 the method further comprises requesting the different service from the second
6 application in response to receiving the third data based on the third reference.

1 21. The method of Claim 20, wherein the second application is different than the first
2 application.

1 22. The method of Claim 20, wherein the second application is the same as the first
2 application.

1 23. The method of Claim 20, wherein:
2 the information managed by the mobile applications server includes fourth data
3 describing the different page including the third reference to the different
4 page;
5 the step of requesting the different service from the second application further
6 comprising sending fifth data to the second application based on at least one of
7 the first data and the fourth data.

1 24. The method of Claim 20, wherein the step of requesting the different service from the
2 second application comprises invoking a particular method of the second application.

1 25. The method of Claim 24, wherein:
2 the particular method is an event handling method for an exiting page event
3 associated with the different page;
4 the step of invoking the particular method further comprises generating an exiting
5 page event for the different page; and
6 the exiting page event includes the third reference.

1 26. The method of Claim 25, wherein:
2 the page is data structure that inherits methods and attributes from a mobile bean class
3 defining an event handling interface for an exiting page event; and
4 the particular method is an implementation of the event handling interface; and
5 the page includes the particular method.

1 27. The method of Claim 26, wherein the mobile bean class inherits methods and
2 attributes from a JavaBeans class.

1 28. The method of Claim 20, wherein the second data does not include the third reference.

1 29. The method of Claim 20, wherein the third data does not include the third reference.

- 1 30. The method of Claim 20, said step of requesting the different service further
2 comprising providing fourth data to the application.
- 1 31. The method of Claim 30, wherein the fourth data comprises a universal resource
2 locator (URL) address for the page for use with an Internet protocol (IP) on the network.
- 1 32. The method of Claim 31, wherein the fourth data further comprises input parameters
2 and corresponding values for use by the application at the URL address in providing the
3 service associated with the page.
- 1 33. The method of Claim 31, wherein the second data does not include the URL address.
- 1 34. The method of Claim 31, wherein the third data does not include the URL address.
- 1 35. A method of interacting with a client process on a mobile device connected to a
2 network over a wireless link to navigate an application, the method comprising the steps of:
3 managing information at a mobile application server executing on a platform
4 connected to the network, the information including
5 first data describing a plurality of pages sent for display on the mobile device,
6 each page associated with requesting a service from an application, and
7 second data describing associations between special keys on the mobile device
8 and page changes among the plurality of pages;
9 receiving third data from the client process indicating a user of the mobile device has
10 pressed a particular key of the special keys; and
11 in response to receiving the third data,
12 determining a particular page change of the page changes associated with the
13 particular key, and
14 requesting the particular page change from the application.

1 36. The method of Claim 35, wherein the page changes include a page back change and a
2 page forward change.

1 37. The method of Claim 35, wherein the page changes include a return to a menu page.

1 38. The method of Claim 35, said step of requesting the particular page change from the
2 application comprising the steps of:

3 determining a particular page of the plurality of pages based on the first data and the
4 particular page change; and
5 requesting the particular page from the application..

1 39. The method of Claim 38, said step of requesting the particular page from the
2 application comprising the steps of:

3 generating fourth data indicating the particular page; and
4 invoking a first method of the application with the fourth data as an input parameter.

1 40. The method of Claim 39, wherein:
2 the fourth data describes an event; and
3 the first method of the application is an event handling method.

1 41. A computer-readable medium carrying instructions for interacting with a client
2 process on a mobile device connected to a network over a wireless link to navigate an
3 application, the computer-readable medium comprising instructions for causing one or more
4 processors to perform the steps of:

5 managing information including first data describing a graphical element for display
6 on the mobile device, the first data including a first reference to the graphical
7 element and a second reference to a page associated with requesting a service
8 from a first application;

9 sending to the client process for rendering the graphical element on the mobile device,
10 second data based on the first data, the second data including the first
11 reference;
12 receiving third data indicating the first reference in response to a user of the mobile
13 device selecting the graphical element; and
14 in response to receiving the third data, requesting the page from the first application
15 based on the second reference.

1 42. The computer-readable medium of Claim 41, wherein the second data does not
2 include the second reference to the page.

1 43. The computer-readable medium of Claim 41, wherein the step of managing further
2 comprises storing the first data in a data structure.

1 44. The computer-readable medium of Claim 43, wherein the second reference is a value
2 of a next page attribute of the data structure.

1 45. The computer-readable medium of Claim 43, wherein the data structure inherits
2 methods and attributes from a bean class for exhibiting persistence and serialization.

1 46. The computer-readable medium of Claim 45, wherein the bean class is a JavaBeans
2 class.

1 47. The computer-readable medium of Claim 41, the instructions further causing the one
2 or more processors to perform the step of receiving fourth data from a second application, the
3 fourth data describing the graphical element and including the second reference to the page
4 associated with requesting the service from the first application.

1 48. The computer-readable medium of Claim 47, wherein the second application is
2 different than the first application.

1 49. The computer-readable medium of Claim 47, wherein the second application is the
2 same as the first application.

1 50. The computer-readable medium of Claim 47, said step of managing the information
2 further comprising generating the first reference based on the fourth data.

1 51. The computer-readable medium of Claim 41, the instructions further causing the one
2 or more processors to perform the step of receiving fourth data from the first application in
3 response to said step of requesting the page, the fourth data describing the page and
4 comprising fifth data describing a different graphical element for display on the mobile
5 device, the fifth data including a third reference to a different page associated with requesting
6 a service from a second application.

1 52. The computer-readable medium of Claim 51, wherein the information managed by the
2 mobile applications server includes the fifth data.

1 53. The computer-readable medium of Claim 41, wherein the information managed
2 includes fourth data about a plurality of pages associated with a plurality of applications and
3 the step of managing the information further comprises generating a unique name for the
4 page among the plurality of pages based on the second reference.

1 54. The computer-readable medium of Claim 41, said step of requesting the page further
2 comprising providing fourth data to the application based the information managed by the
3 mobile applications server.

1 55. The computer-readable medium of Claim 54, wherein the fourth data includes the
2 second reference.

1 56. The computer-readable medium of Claim 54, wherein the third data does not include
2 the fourth data.

- 1 57. The computer-readable medium of Claim 54, wherein the second data does not
2 include the fourth data.
- 1 58. The computer-readable medium of Claim 54, wherein the fourth data comprises a
2 universal resource locator (URL) address for the page for use with an Internet protocol (IP)
3 on the network.
- 1 59. The computer-readable medium of Claim 58, wherein the fourth data further
2 comprises input parameters and corresponding values for use by the application at the URL
3 address in providing the service associated with the page.
- 1 60. The computer-readable medium of Claim 41, wherein:
2 the graphical element is included on a different page associated with requesting a
3 different service from a second application;
4 the different page has a third reference; and
5 the instructions further causing the one or more processors to perform the step of
6 requesting the different service from the second application in response to
7 receiving the third data based on the third reference.
- 1 61. The computer-readable medium of Claim 60, wherein the second application is
2 different than the first application.
- 1 62. The computer-readable medium of Claim 60, wherein the second application is the
2 same as the first application.
- 1 63. The computer-readable medium of Claim 60, wherein:
2 the information managed by the mobile applications server includes fourth data
3 describing the different page including the third reference to the different
4 page;

5 the step of requesting the different service from the second application further
6 comprising sending fifth data to the second application based on at least one of
7 the first data and the fourth data.

1 64. The computer-readable medium of Claim 60, wherein the step of requesting the
2 different service from the second application comprises invoking a particular method of the
3 second application.

1 65. The computer-readable medium of Claim 64, wherein:
2 the particular method is an event handling method for an exiting page event
3 associated with the different page;
4 the step of invoking the particular method further comprises generating an exiting
5 page event for the different page; and
6 the exiting page event includes the third reference.

1 66. The computer-readable medium of Claim 65, wherein:
2 the page is data structure that inherits methods and attributes from a mobile bean class
3 defining an event handling interface for an exiting page event; and
4 the particular method is an implementation of the event handling interface; and
5 the page includes the particular method.

1 67. The computer-readable medium of Claim 66, wherein the mobile bean class inherits
2 methods and attributes from a JavaBeans class.

1 68. The computer-readable medium of Claim 60, wherein the second data does not
2 include the third reference.

1 69. The computer-readable medium of Claim 60, wherein the third data does not include
2 the third reference.

1 70. The computer-readable medium of Claim 60, said step of requesting the different
2 service further comprising providing fourth data to the application.

1 71. The computer-readable medium of Claim 70, wherein the fourth data comprises a
2 universal resource locator (URL) address for the page for use with an Internet protocol (IP)
3 on the network.

1 72. The computer-readable medium of Claim 71, wherein the fourth data further
2 comprises input parameters and corresponding values for use by the application at the URL
3 address in providing the service associated with the page.

1 73. The computer-readable medium of Claim 71, wherein the second data does not
2 include the URL address.

1 74. The computer-readable medium of Claim 71, wherein the third data does not include
2 the URL address.

1 75. A computer-readable medium carrying instructions for interacting with a client
2 process on a mobile device connected to a network over a wireless link to navigate an
3 application, the computer-readable medium comprising instructions for causing one or more
4 processors to perform the steps of:
5 managing information including
6 first data describing a plurality of pages sent for display on the mobile device,
7 each page associated with requesting a service from an application, and
8 second data describing associations between special keys on the mobile device
9 and page changes among the plurality of pages;
10 receiving third data from the client process indicating a user of the mobile device has
11 pressed a particular key of the special keys; and
12 in response to receiving the third data,

13 determining a particular page change of the page changes associated with the
14 particular key, and
15 requesting the particular page change from the application.

1 76. The computer-readable medium of Claim 75, wherein the page changes include a
2 page back change and a page forward change.

1 77. The computer-readable medium of Claim 75, wherein the page changes include a
2 return to a menu page.

1 78. The computer-readable medium of Claim 75, said step of requesting the particular
2 page change from the application comprising the steps of:
3 determining a particular page of the plurality of pages based on the first data and the
4 particular page change; and
5 requesting the particular page from the application.

1 79. The computer-readable medium of Claim 78, said step of requesting the particular
2 page from the application comprising the steps of:
3 generating fourth data indicating the particular page; and
4 invoking a first method of the application with the fourth data as an input parameter.

1 80. The computer-readable medium of Claim 79, wherein:
2 the fourth data describes an event; and
3 the first method of the application is an event handling method.